



Fig. 1-1. 7A18 and 7A18N Amplifier.

SPECIFICATION

Introduction

The 7A18 and 7A18N Dual Trace Amplifier plug-in units are designed for use with Tektronix 7000-Series Oscilloscopes. The 7A18 and 7A18N are electrically identical except that readout encoding capabilities and an "IDENTIFY" function are provided only in the 7A18. All references made to the 7A18 apply equally to the 7A18N unless otherwise noted. The 7A18 is a dual-channel, medium-bandwidth amplifier. Internal gain and compensation circuits are automatically switched to correspond to

the setting of the VOLTS/DIV switch. Channel 2 can be inverted for differential measurements. The 7A18 can be operated in any plug-in compartment of the 7000-series Oscilloscopes.

The following electrical characteristics are valid over the stated environmental range for instruments calibrated at an ambient temperature of +20°C to +30°C, and after a five minute warmup unless otherwise noted.

TABLE 1-1
ELECTRICAL

Characteristic	Performance Requirement	Supplemental Information
Deflection Factor		
Calibrated Range	5 mV/Div to 5 V/Div; ten steps in a 1, 2, 5 sequence.	
Deflection Factor Accuracy	Within 2% with GAIN adjusted at 10 mV/Div.	
Uncalibrated (VARIABLE)	Continuously variable between calibrated steps; extends deflection factor to at least 12.5 V/Div.	
GAIN		Permits adjustment of deflection factor for calibrated operation with all 7000-series oscilloscopes.
Frequency Response System Dependent (8 div reference signal)		
Upper Bandwidth DC (Direct) Coupled	See Table A	
Lower Bandwidth AC (Capacitive) Coupled	10 Hertz or less	
With 10X Probe	1 Hertz or less	

TABLE 1-1 (cont)

Characteristic	Performance Requirement	Supplemental Information
Maximum Input Voltage		
DC Coupled		250 volts, (DC + Peak AC); AC component 500 volts peak-to-peak maximum, one kilohertz or less.
AC Coupled		500 volts, (DC + Peak AC); AC component 500 volts peak-to-peak maximum, one kilohertz or less.
Channel Isolation	50:1 display ratio up to 50 megahertz.	
Input R and C		
Resistance	1 MΩ ± 2%	
Capacitance	Approximately 20.0 pf	
RC Product		Within ± 1% between all deflection factors.
Displayed Noise (Tangentially Measured)		300 microvolts or less at 5 mV/C iv in 7000-Series Oscilloscope.
Overdrive Recovery Time		0.1 ms or less to recover to within one division after the removal of an overdrive signal of up to +75 divisions or -75 divisions regardless of overdrive signal duration.
Common Mode Rejection Ratio	At least 10:1 up to 50 megahertz.	
DC Drift		
Drift with Time (ambient temperature and line voltage constant)		0.02 division or less in any one minute, after one hour warmup.
Drift with Temperature (line voltage constant)		No more than 0.01 division per degree C.
Time Delay between Channels		700 picoseconds or less.
Display Modes	Channel 1 only. Dual-trace, alternate between channels. Added algebraically. Dual-trace chopped between channels. Channel 2 only.	

TABLE 1-1 (cont)

Characteristic	Performance Requirement	Supplemental Information
Trigger source Selection	Channel 1 only. Follows DISPLAY MODE selection. Channel 2 only.	

TABLE A
7A18 AND MAINFRAME
FREQUENCY RESPONSE

With 7700 Series	With 7500 Series	With 7400 Series
75 MHz	60 MHz	50 MHz

TABLE 1-2
ENVIRONMENTAL CHARACTERISTIC

Refer to the Specification for the associated oscilloscope.

TABLE 1-3
PHYSICAL

Size	Fits all 7000-series plug-in compartments.
Weight	2 Pounds 10 Ounces (1.4 kilograms)